

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Currently Amended) A method of automatically fabricating a ~~suprastructure~~ dental superstructure to be attached to an implant with the help of a digital model description of the shape, the dental superstructure comprising first and second elements, the method comprising the following steps:

recording a real clinical situation or a shaped clinical situation of the implant as digital data[[.]];

analyzing [[this]] the recorded situation and determining an implant axis[[.]];

computing an optimum shape of the ~~suprastructure~~, dental superstructure based at least in part on the determined implant axis;

automatically separating the ~~suprastructure~~ computed optimum shape of the dental superstructure into [[a]] first ~~element~~ digital data and [[a]] second ~~element~~, digital data; and

fabricating the first and second elements from one or more blanks on the basis of ~~said digital data~~ the first digital data and the second digital data with the aid of machining equipment.

2. (Currently Amended) A method as defined in claim 1, comprising determining a mating surface between the ~~digitized first element of the suprastructure~~ digital data and the ~~digitized second element of the suprastructure~~ digital data.

3. (Currently Amended) A method as defined in claim 1, wherein the shape of that element of the ~~suprastructure~~ dental superstructure which is to be connected to the implant is described by at least two of the following parameters: ~~[[the]]~~ a shoulder width, ~~[[the]]~~ a tilt angle of the ~~suprastructure~~ dental superstructure relative to the ~~longitudinal axis of said determined~~ implant axis, ~~[[the]]~~ an angle of rotation of the ~~suprastructure~~ dental superstructure about ~~[[the]]~~ a longitudinal axis ~~in said~~ of a blank, and ~~[[the]]~~ a height of ~~[[said]]~~ a post.

4. (Currently Amended) A method as defined in claim 1, wherein one of the first and second elements of the ~~suprastructure~~ dental superstructure is an abutment and the shape of an abutment is optimized with reference to one or more or all the following parameters:

a minimum value for ~~[[the]]~~ a shoulder width;

a maximum height of ~~[[the]]~~ a post delimited by ~~[[the]]~~ a tilt angle of the ~~suprastructure~~ dental superstructure relative to the ~~longitudinal axis of said determined~~ implant axis, ~~[[the]]~~ a geometry of ~~[[said]]~~ a blank, and ~~[[the]]~~ a height of ~~[[the]]~~ an occlusal surface, the maximum height of the post being such that it is disposed at a maximum distance below the height of the occlusal surface;

a minimum height of the post delimited by the position of the head of an occlusal screw;

an angle of rotation of the abutment about the longitudinal axis in said blank, which is given by the relative position of said implant in the recorded clinical situation.

5. (Currently Amended) A method as defined in claim 1, wherein the shape of ~~[[said]]~~ a blank and the shape of the dental ~~suprastructure~~ superstructure are described in the coordinate system of the geometry for attachment to said implant.

6. (Currently Amended) A method as defined in claim 1, comprising interactively determining the axis of ~~[[said]]~~ the implant by a user.

7. (Currently Amended) A method as defined in claim 1, wherein the first element of the ~~suprastructure~~ dental superstructure is an abutment and the second element of the ~~suprastructure~~ dental superstructure is a crown.

8. (Currently Amended) A method as defined in claim 1, wherein the first element of the ~~suprastructure~~ dental superstructure is an abutment and the second element of the ~~suprastructure~~ dental superstructure is a cap.

9. (Currently Amended) A method as defined in claim 1, wherein the first element of the ~~suprastructure~~ dental superstructure is an abutment and the second element of the ~~suprastructure~~ dental superstructure is a reduced crown.

10. (Currently Amended) A method as defined in claim 1, wherein the ~~suprastructure~~ dental superstructure comprises a first element in the form of an abutment, a second element in the form of a partially veneered crown, and a third element in the form of a veneer, and ~~not only the~~ further comprising the steps of determining a mating surface between [[said]] the first and second elements but also and determining a mating surface between [[said]] the third element and [[said]] the first element and/or [[said]] the second element is/are computed.

11. (Currently Amended) A method as defined in claim 1, wherein ~~said suprastructure~~ the dental superstructure comprises a number of abutments which are interconnected by a common frame construction.

12. (Currently Amended) A method as defined in claim 1, wherein [[the]] distribution rules can be varied by the user.

13. (Currently Amended) A method as defined in claim 1, wherein that element of the ~~suprastructure~~ dental superstructure which is connected to the implant is computed in its final size and the ~~further~~ element of the ~~suprastructure~~ dental superstructure connected to this element is computed as a provisional ~~suprastructure~~

superstructure having exterior dimensions which are smaller than the final exterior dimensions while retaining the mating surface.

14. (Currently Amended) A method as defined in claim 13, wherein the same data set is used to compute said element of the dental superstructure with its final dimensions of the provisional superstructure.

15. (New) A method of automatically fabricating a dental superstructure to be attached to an implant with the help of a digital model description of the shape, the dental superstructure comprising first and second elements, the method comprising the following steps:

recording a real clinical situation or a shaped clinical situation of the implant as digital data;

analyzing the recorded situation and determining an implant axis;

computing an optimum shape of the dental superstructure based at least in part on the determined implant axis;

automatically separating the computed optimum shape of the dental superstructure into first digital data and second digital data; and

transmitting the first digital data and the second digital data to machining equipment for fabrication of the first and second elements from one or more blanks.

16. (New) A method as defined in claim 15, comprising determining a mating surface between the first digital data and the second digital data.

17. (New) A method as defined in claim 15, wherein the first element of the dental superstructure is an abutment.

18. (New) A system for fabricating a dental superstructure to be attached to an implant with the help of a digital model description of the shape, the dental superstructure comprising first and second elements, the system comprising:

means for recording a real clinical situation or a shaped clinical situation of the implant as digital data;

means for analyzing the recorded situation and determining an implant axis;

means for computing an optimum shape of the dental superstructure based at least in part on the determined implant axis;

means for automatically separating the computed optimum shape of the dental superstructure into first digital data and second digital data; and

means for fabricating the first and second elements from one or more blanks on the basis of the first digital data and the second digital data with the aid of machining equipment.

19. (New) A system as defined in claim 18, comprising means for determining a mating surface between the first digital data and the second digital data.

20. (New) A system as defined in claim 18, wherein the first element of the dental superstructure is an abutment.